

ABSTRACT

A high frequency circuit module for use in an automotive radar or the like, in which RF circuit parts are mounted on both sides of a hard multilayer dielectric substrate, and a transmission line connecting the RF circuit parts provided on both sides is constructed by a via group including a periodical structure or a via having a coaxial structure perpendicular to faces of the multilayer dielectric substrate. As the multilayer dielectric substrate, a hard multilayer substrate using metallic layers as a microstrip line wiring layer, a DC/IF signal line layer, and grounding metal layers for shielding which are disposed on and under the DC/IF signal line is employed. By using the transmission line achieved by a through via having the periodical structure or the through via having the coaxial structure, an electromagnetic wave propagating in parallel between the grounding conductors is confined.